

## Claims

1. Method for synthesizing endohedral fullerenes in an arc reactor by burning off graphite electrodes, characterized in that the burning off is carried out in an atmosphere, which contains a reactive gas component, consisting of at least two elements, in an inert gas or inert gas mixture.

2. The method of claim 1, characterized in that the inert gas or the inert gas mixture contains 5% by volume to 60% by volume of reactive gas component.

3. The method of claim 1, characterized in that the inert gas or the inert gas mixture contains 5% by volume to 10% by volume of reactive gas component.

4. The method of claim 1, characterized in that the inert gas or inert gas mixture contains a nitrogen-containing or carbon-containing reactive gas component.

5. The method of claim 1, characterized in that the reactive gas component consists of ammonia or methane or of other hydrocarbons.

6. The method of claim 1, characterized in that the reactive gas component is supplied to the arc reactor from outside during the burning off or is generated in the arc reactor.

7. The method of claim 1, characterized in that graphite electrodes are used, which are modified with metal or metal oxides.

8. The method of claim 7, characterized in that graphite electrodes are used, which are modified with holmium or scandium or their oxides.

9. The method of claim 1, characterized in that graphite electrodes are used, which are modified with metal or metal oxides and a nitrogen-containing substance.

10. The method of claim 1 own 9, characterized in that graphite electrodes are used, which are modified with metal cyanamide, preferably with calcium cyanamide or lead cyanamide.